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HYGIENIC STANDARDS IN TYPE AND FORMAT OF READING MATERIALS

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THE great increase in the amount of reading which has resulted from improved means of printing and distributing books, papers, magazines, etc., has served to raise interest in the question of the form and arrangement of the medium through which ideas are to be communicated to the reader. As defective pronunciation or defective grammatical use serves to disturb the cognitive processes by attracting the attention from the message to the means of communication, so defective printed materials tend to draw the attention from what is communicated to the means. A perfect reading state is reached only when the reader, with no conscious attention upon the print, looks upon the page and parallels the thoughts of the author. The attainment of this state demands not only a mastery of the art of reading, but such a preparation of the material elements involved in the medium of communication as will best conform to those elements of the physiological structure of the reader which are directly involved in the process of reading. Any blocking in the medium of communication between the author and the reader should be eliminated as far as it is possible to do so. It is very important, therefore, that we obtain as rapidly as is possible valid information dealing with the manner of best preparing the type and format of reading materials.

It is encouraging to note at this point that the problem, although very complex, lends itself readily to objective experimental in-

vestigation. It is as possible to determine, for example, the best size of type as it is to determine the best materials with which to pave a road or prepare a race track.

One of the early approaches to the problems involved in the hygiene of reading dealt with the legibility of letter forms. Emele Javal in 1878¹, J. McKeen Cattell in 1886², E. C. Sanford 1887³, F. C. Dockeray in 1910⁴, and Barbara E. Roethlein in 1912⁵ published studies dealing with the legibility of isolated letters. Roethlein, who compared the legibility of letters in some fifty faces of type concluded that in general the most distinguishable were the Jensen Old Style and the most difficult to distinguish were the American Typewriter letters. There was an agreement among the investigators that broad letters such as *w* and *m* are more legible than tall thin letters such as *j* and *l*. These studies were, however, of little value, except as they stimulated further investigation in the hygiene of reading, for, excepting such letters as *i* and *a*, which are frequently used as words, isolated letters are not observed in the reading process. We see words and phrases as units. A letter may have a low degree of legibility as the letter *f* when seen alone and be an important contributing element to the legibility of a word. This truth may be illustrated by

¹Pedagogical Seminary 1892, pp. 49-51.

²Brain Vol. VIII, pp. 295-312.

³American Journal of Psychology, Vol. I, pp. 402-435.

⁴Journal of Educational Psychology, Vol. I, pp. 123-131.

⁵American Journal of Psychology, Vol. XXIII, pp. 1-36.

reading the following lines and noting the number of times the letter *f* appears:

*Every package of Kellogg's Corn
Flakes is sealed in wax paper and
bears the signature of W. K. Kellogg.*

Read carefully until you are certain you have noted all of them.

It is evident from the above test that the legibility of isolated letters is little, if at all, related to the degree to which the letters contribute to the legibility of the word in which they are found. It is likely that the thin letter *f* contributes as much to the legibility of the word *of* as the broad letter *o*.

The difficulty involved in attempting to determine the legibility of type forms by determining the legibility of isolated letters is analogous to the early attempts to measure native intelligence by measuring, when isolated, such component parts as attention, memory, reaction time, etc. No real progress, except for the stimulation of further effort, was made until Binet began to direct attention away from the component elements and upon the synthesized product. In studying problems involved in the hygiene of reading it is as important that we study the various factors by centering attention upon the synthesized product when all factors are functioning simultaneously in the reading process, as it is that intelligence be determined by studying the mind at work as a whole.

One thing which should be kept in mind in the study of size and arrangement of type as factors in the hygiene of reading is the accumulative nature of any retarding tendency in the element under consideration. To illustrate, let us assume that in experimenting with three hundred word specimens it has been found that for a given age eighteen-point type has but little advantage over ten-point type. Let us further assume that statistical treatment of the data shows that this difference in readability of the types, although very small, is a real and not a chance difference. In interpreting the results of the above hypothetical experiment, one is subject to the error of overlooking the accumulative possibilities of such a difference and concluding that the

difference is so small as to warrant the interpretation that a difference in size of type between ten and eighteen points is of no consequence for the age under consideration. This may be a serious error. All experience points to the accumulative nature of any handicap under which a human must labor in a prolonged test. For example, an individual might carry a ten-pound weight a mile with little appreciative effect upon the rate of walking. Prolong the journey to a day's walk and the result would indicate, without a doubt, that the ten-pound weight, which made so little difference during the first mile, was, after all, a serious handicap.

The above analogy seems to the writer to be perfect as far as it goes. Decreased rate of reading is, however, but the lesser of two consequences resulting from imperfect adjustment of the print to those elements in the physiological structure of the reader which are directly involved in the reading process. The disturbance which is causing the decrease in the rate of reading is having a paralleling effect upon the cognitive processes. If slow reading were alone the result of imperfect type the seriousness of defective typography would be lessened to a small fraction of that which exists when a corresponding decrease in cognition is the result. The ultimate in the reading process is the generation of thought through the medium of the printed page. Any disturbance at this point, although slight, is serious.

Because of the necessity of determining the most efficient display of any factor involved in the arrangement and form of type while all factors are functioning simultaneously in the reading process, and because of the need of testing with an amount of material sufficient to bring out evidences of typographical defect, the use of photographic records of eye-movements does not seem to be feasible as a means of determining the hygienic requirements of typography. The conditions under which reading must be done when photographing the records of the eye-movements involved in the reading process are highly abnormal. Mechanically and statis-

tically controlling all the factors involved does not prevent the possible introduction of such constant errors as would tend to accentuate or minimize the real difference in the readability of two specimens. This may be illustrated by noting that a mental test standardized under uniform conditions of great strain would lack validity under normal conditions because of the possibility that the finer mental qualities would fail to function under abnormal conditions. A Ford may be driven over roads impassable for a Rolls Royce.

Waving aside, however, the possibilities of constant errors, and the limited amount of material during the reading of which records of eye-movements may be obtained, there is still an added reason for the limited extent to which photographic records are feasible as a means of determining hygienic requirements in matters of typography. This is the fact that a careful record of rate and errors may be used as a means of locating the best specimen dealing with the factor under consideration. Rate and errors, considered jointly, parallel duration and number of fixation pauses as indexes of readability as the factor under consideration is varied. While the photographing of records of eye-movements should give valuable aid in determining the causes of difficulty when such are discovered, it is a clumsy approach to the problem of determining the best variation of an item.

The results of experimentation to date in the field of hygiene of reading are for the most part inconclusive and fragmentary. There is but little agreement among those whose problems have been identical or overlapping. A problem cannot be considered settled until those who make a serious experimental study of it arrive, at least approximately, at the same conclusion. While there is no problem in the hygiene of reading which is at present settled with the degree of finality with which it is possible to settle problems which lend themselves to objective experimental evidence, one may, by surveying the studies made to date, project a most probable answer to many important questions relating to type

and format of reading materials. The accompanying table has been prepared with this in mind.

MOST PROBABLE VARIATION OF FACTOR

Length of Line

About ninety millimeters. (W. S. Gray: Upon basis of comparison of objective studies.)

Leading (distance between lines)

Leading is important, although the most appropriate amounts for different sizes of type have not been determined. (W. S. Gray: Upon basis of comparison of objective studies.)

Margin

The left-hand margin should be regular, except for the paragraph indentions. There is no evidence to support the current practice of making the right-hand margin irregular. (W. S. Gray: Upon basis of comparison of objective studies.)

Size of Type

The size of type is very important. Until additional evidence has been secured, the recommendations of Shaw and Huey should be followed. (W. S. Gray: Upon the basis of comparison of objective studies.)

Shaw recommends: first grade, 2.6 mm.; second and third grades, 2mm.; and fourth grade, 1.8 mm. as the height of small letters. These sizes correspond approximately to 18-point, 14-point, and 12-point respectively. The writer is personally convinced from his own experiments that type below 18-point, height of small letters, 2.75 mm., is undesirable in all the first four grades.

Color of Type

Deep black. (Huey and Burnham: Opinion based upon the fact that visibility is increased by sharp contrast between the letters and the background.)

Color of Paper

Pure white without gloss. (Hull and Ames: Upon basis of experimental evidence.)

Texture of Paper

Such that printing will not affect the evenness of the surface of the other side. (Huey.)

The paper should have a minimum thick-

(Continued on page 118)

USE OF RESEARCH IN THE TEACHING OF READING

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IN 1837 Horace Mann made a report to the Massachusetts Board of Education in which he deplored the practice prevailing with respect to the teaching of reading in that state. He described the antiquated methods then in use and emphasized the waste resulting from these crude practices. Being a constructive critic he pointed out the shortcomings of the alphabetic method of teaching reading and advocated a more modern procedure, viz., the word method. In spite of his earnest and eloquent advocacy of the word method of teaching reading, it was at least a half century before this method prevailed. In other words, it required fifty years or longer to disseminate Horace Mann's advanced ideas (and they were advanced for that day) regarding the teaching of reading.

During the last two decades many investigations of the reading process have been made. One of the ablest of these investigators has summarized more than 500 studies, placing them in the category of *scientific* investigations. Now that we have this rich body of professional literature in this field, much of it containing new and vital information for teachers, will it take as long a period of time in our day to disseminate these findings as it did in Horace Mann's time? Will we be as slow to reform our practices as were the teachers who were Horace Mann's contemporaries?

The writer has frequently stated in recent years that common practice is at least a generation behind our best educational theories regarding the teaching of reading, that we have much more scientific knowledge on this subject than practice indicates, and that scientific studies of reading problems are progressing more rapidly than the utilization of the results of research. These statements have been made arbitrarily with little objective evidence to support them. More recently, however, a limited investigation has been made to

discover some evidence of the extent to which the results of research are being translated into practice.

This problem was attacked from several angles. School surveys were examined to discover their findings regarding the status of reading instruction. City and state courses of study were carefully read to determine if the real purpose or place of reading in the elementary school was understood, and if a modern reading program was outlined. The catalogs of teacher colleges were inspected to discover what courses in the teaching of reading were open to students preparing to teach. School readers and manuals were scanned to ascertain whether or not the publishers have been influenced by the findings of research. A large number of teachers, in two widely separated states, were visited personally, and their instruction in reading was observed to discover if they were in a measure familiar with some of the results of research, and if their practices gave evidence of this knowledge.

The space allotted to this article necessarily limits the amount of discussion on each of the points of attack. Any one of them will provide material for a report much longer than this article. A summary of the results of this study is the extent to which we can report here. The supporting details will, therefore, be omitted. A more complete report is now in the process of preparation by a graduate student¹ at Peabody College.

What do surveys show regarding the status of reading instruction?

To answer this question eight city, seven state and two county surveys of recent date were examined. Standardized reading tests were used to measure the achievement of children in all of these surveys. While the results revealed considerable variation this general

¹Fred McCarrell, Director Training School, Edmond, Oklahoma

conclusion appears justifiable: city children approximate or excel the norms for the tests in each case as shown by city surveys, while state and county surveys indicate country children are below the norms. This is not proof that city children are taught by more modern methods than country children. Nevertheless, one is inclined to suspect that they are when he finds these results.

These surveyors did not limit their investigations of reading to objective tests alone. In many instances they observed classroom teaching. The consensus of these observations shows that there is more evidence that modern methods of teaching reading are found in city schools, and that there is positive proof that antiquated practices prevail in country schools.

Since approximately one half of the teachers of the United States teach in communities that are defined as rural by census definition, we must conclude that at least half of those who teach reading are not putting into practice to any very great extent the products of research. This is the answer to the question regarding the status of reading instruction as revealed through an examination of surveys.

Are courses of study planning a reading program in harmony with the findings of research?

A limited number of recent city and state courses of study has been examined to date. The content of these was studied to determine what they had to say with respect to objectives, achievements, methods, individual differences, remedial work, materials, et cetera. It was found that all courses of study qualified in some respects while revealing decided weaknesses in other points. A few illustrations will suffice to make our point clear. Pre-primer work was provided for in 78 per cent of the city courses of study and 46 per cent of the state courses. Only 50 per cent of the courses showed any definite plan for testing the achievement of pupils. Remedial work was mentioned in but 25 per cent of them.

One is compelled to conclude from an examination of recent courses of study that within certain limits the results of research in reading are being used. It is to be regretted,

however, that so few courses of study provide for a well balanced reading program.

The reader should remember in connection with this conclusion that only the more progressive cities and states prepare courses of study and that this finding is probably based on the results of the best practice to be found in the country. There are thousands of schools without courses of study and their practices are not revealed by this method of approach. It is also well to bear in mind that a good course of study is not positive proof that modern practices prevail. The course of study may have been prepared in the superintendent's office and handed down to teachers. In such a case there is little likelihood that it will materially affect teaching procedures.

To what extent do teachers college catalogs offer courses, the descriptions of which suggest that efforts are being made in these colleges to provide teachers in training with scientific information on the teaching of reading?

The teachers colleges and normal schools are the recruiting stations for the teaching profession. It is fair to assume that those who pass through these institutions will possess specific training for their work. For teachers of the elementary school this would certainly mean some acquaintance with the literature, much of which is of a scientific character, on the teaching of reading. Wherever courses in methods of teaching reading are given in teachers colleges the results of the more important research studies are usually discussed, and students become more or less familiar with these investigations. This knowledge of the results of research, while not necessarily insuring its use in practice, will make it possible for the intending teacher to plan her teaching of reading along progressive lines if she has the inclination to do so. On the other hand, the young teacher who has not had any course on the teaching of reading cannot know of the investigations in this field, and, therefore, she cannot use them. One measure of the extent of the use of the results of research in the field of reading will be the number of courses of

instruction on this subject in teachers colleges and normal schools.

The catalogs of 134 teachers colleges and normal schools were examined to ascertain the practice of offering such courses as might give the student some acquaintance with the research on the teaching of reading.

The following table summarizes the courses given in these colleges:

Primary Reading Methods.....	58
Intermediate Grade Reading Methods..	16
Upper Grade Methods in Reading....	5
	—
Total	79

Fifty-nine per cent of these colleges are providing one or more courses on the teaching of reading. If we assume that these courses are required for those preparing to teach in the elementary school, it probably means that six out of ten who go out from our teachers colleges have some knowledge of the scientific literature on the teaching of reading. An examination of the catalogs of these institutions will reveal that in addition to the reading courses, many provide for courses in "General Methods" and that one of the topics discussed in such a course is the teaching of reading. Because of the great number of topics treated in such a course, and the volume of literature on the teaching of reading with which the student should become familiar, the information which the student is likely to receive in a general methods course will be so fragmentary that he will hardly be prepared to put into practice a modern reading program.

These data would indicate that many graduates of teacher training institutions are probably lacking in the fundamental information necessary to the successful teaching of reading. More and more vacancies are being filled by the graduates of our teachers colleges and normal schools. This shortage in their training is a serious factor. Until such time as teachers colleges furnish technical information to their graduates with respect to comprehensive reading program, we may reasonably expect the classroom work of a large number of our teachers to continue to lag far behind the best educational theory on this subject.

Are publishers of school readers sensitive to the findings of research and have they prepared their books in harmony with the recommendations of research workers?

To answer this question an examination was made of 23 sets of readers and their manuals, copyrighted since 1920. Eight criteria were used in evaluating these books. They were:

1. Rich and varied content
2. Well illustrated
3. Suited to experiences and interests of the child
4. Well graded subject matter
5. Length of selection
6. Motivating directions and questions
7. Mechanical make up
8. Manual in harmony with psychological principles

Each set of readers was scored on each criterion as excellent, good, fair, or poor. A total of 347 scores on all points were made. Of these 173 were excellent, 94 were good, 35 were fair and 44 were poor.

It is obvious from the examinations of school readers that the authors and publishers are to a very great extent making use of the recent scientific investigations on the teaching of reading. This is encouraging, for a good textbook is a splendid agency in the diffusion of any practice. The American public school teacher has always been known as a textbook teacher; if the book which she teaches is pedagogically sound her method of teaching is almost sure to be effected. One of the most potent factors in the spreading of the results of research is through a well prepared set of readers and their manuals.

What does the actual observation of teaching situations reveal regarding the teaching of reading.

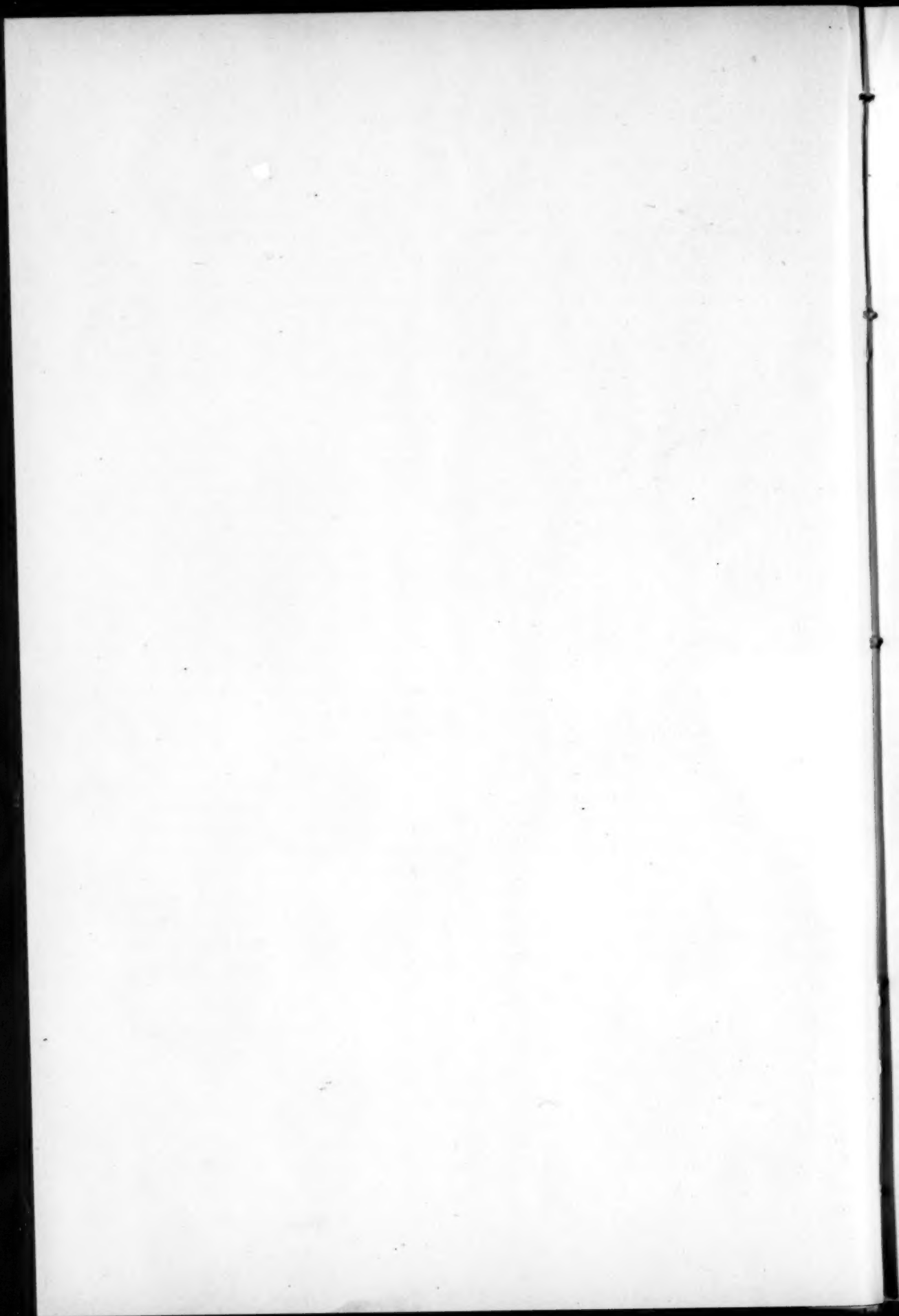
Teachers were visited in a number of communities in two widely separated states to see if their teaching was anchored to a sound scientific basis. The writer visited personally about 60 different teachers in one city and observed only one silent reading lesson. Their methods of teaching reading were entirely out of harmony with the findings of the Reading Committee of the National Society for the

Study of Education. Conversation with these teachers disclosed their absolute ignorance of the report of this committee as well as of any book or article on the teaching of reading. Graduate students associated with the writer visited fourteen other communities and these observers concluded that practice is far behind modern theory. They reported that the objectives are intangible; that there is a paucity of reading material in nearly every room—children more frequently than not reading only one book a year; that oral reading is taught almost exclusively; that no use is made of standard tests, and that informal tests are poor; and that remedial work is but seldom given. The report of this committee is extremely discouraging. The climax of disappointment comes, however, when the committee says that "the trained and experienced teachers (there were a number of college graduates among those observed) were doing about as poorly as those whose training and experience were much more limited."

It should be explained that these observations were made in schools that have little or no supervision. That there are communities in this country where a modern reading program is being carried on effectively is a matter of record. Brilliant examples of splendid work in reading will be found in Baltimore County, Md., Davidson and Shelby Counties, Tenn., Ascension and Saint Landry Parishes, La., Detroit, St. Louis, Denver, Louisville, Birmingham, New Orleans, Florida, where a reading campaign has been on for two years, and many other places too numerous to mention. In these centers practices approximate theory about as closely as is ever possible.

But for every such community can you not find three, five, seven, or perhaps ten places where practice has not been greatly altered by the new scientific movement in reading? In these places we find teachers instructing children as they themselves were taught, absolutely ignorant and oblivious that science has discovered for us new truths and that little children are entitled to the benefits of these discoveries.

It is probably true that there is more moral, political and scientific wisdom at our command than we can reduce to practice. This is but natural in the course of progress. There has always been a gap between theory and practice, but it is our business to close this gap as nearly as possible. As theory moves forward, practice should be on the march. They must not be separated by a gulf which no bridge can span. He who disseminates the results of research may be almost as great a benefactor to mankind as the discoverer of new truths. It does appear that scientific discoveries regarding the reading process have far outstripped common practice. It is a far cry from the procedures in many schoolrooms to the ideal practices which we know should prevail. This is a burden resting upon all instructors in teachers colleges, superintendents, supervisors, and principals. It is their responsibility to see that the products of the psychological laboratory with respect to the teaching of reading are disseminated, and that the best theory and practice claim a kinship. There is no bigger problem of instruction in the elementary school than the diffusion of the wonderful discoveries in the teaching of reading among all the teachers of the land.



THE ANALYSIS OF SKILLS IN READING

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THE MOST significant developments in recent years in the teaching of reading are the increasing clearness with which the objectives of reading have been established and the analysis of the skills that must be developed so that these objectives can be achieved economically and efficiently.

The reading objectives have been classified according to their function as of two types, first, those concerned with the purely recreational outcomes and second, those concerned with the skills and abilities required in what is commonly called work type reading.

In the first group are listed those outcomes which are general in character, such as appreciation, enjoyment, interpretation, desire for wide reading, and the like. While it is true that in reading of the recreational type, use is made of many of the so-called work type skills, stress is placed on the fact that the function of this type of reading is not to develop skills through conscious practice, but rather to stress the outcomes that will result in a taste for good reading as a part of the leisure time activities of the individual. There is little experimental evidence as to what methods will bring about such a result, although it is obvious that many pupils are acquiring an increasing interest in the reading of literary materials as an outcome of the teaching of reading, and of the constant stimulation to read both good and bad literature.

The objectives of work type reading have been quite definitely catalogued. This task has been greatly simplified because of the possibility of analyzing the reading skills involved in studying the various subjects that make up the curriculum of the school. For example, the skills included in the category of work type have been divided by Horn into the following general groups:

1. The ability to locate information.
2. The ability to comprehend what is read.

3. The ability to organize what is read.
4. The ability to evaluate what is read.
5. The ability to remember what is read.

It is essential that the child be able to perform the activities required by each of these abilities with desirable speed and accuracy, since speed of reading and accuracy of comprehension are essential to a satisfactory performance.

The teacher in the classroom who is concerned with the development of the work type reading skills must recognize clearly that the first step in teaching must be an analysis of the specific skills the learner must have in order to acquire certain general abilities, such as knowing how to locate information. Courses of study often list this general ability as a desired outcome, and attempt to indicate the character of the work that should be done to develop it in a satisfactory way. For example, the ability to locate information requires the development of the following skills, among others:

1. The ability to use the table of contents.
2. The ability to use the index.
3. The ability to use a glossary.
4. The ability to use a card catalog.
5. The ability to use reference books, etc.

The work of the classroom teacher is made much clearer by such an analysis. However, the teacher of a particular grade, say the fourth grade, who undertakes the preparation of a lesson which is designed to develop such a skill as the ability to use the index, becomes conscious of the fact that three factors enter into the problem of preparing the lesson; namely, the nature of the index itself, the purpose for which the index is to be used, and the stage of the reading development of the pupils in the class.

Numerous questions by Minneapolis teachers regarding the skills involved in the teaching of the major objectives in work reading, resulted in the preparation of a number of

illustrative bulletins whose purpose it was to suggest to the teachers the type of analysis that was necessary to make clear the specific skills involved in the acquisition of some wide general ability, and the type of lessons that would aid in the development of these skills.

Even a slight analysis of what constitutes the use of the index indicates that this is not a general ability but is composed of numerous specific abilities.

The ability to use the index involves the following items:

1. A knowledge of how the index can be used to save time
2. A knowledge of the definite types of indexes
 - a. Text having no index
 - b. Text having an index of main topics only
 - c. Index having both main topics and sub-topics
 - d. Index located in a separate volume
3. Mechanical skills such as a knowledge of the alphabet
4. Ability to locate information when the key word is stated as a main topic in the index
5. Ability to locate information when the key word is listed as a sub-topic in the index
6. Ability to locate information when more than one key word is involved requiring a search for more than one main topic and sub-topic

Arithmetic readily lends itself to an analytical treatment. We find that the skills involved are graduated in difficulty and each skill is dependent upon previously developed skills. Success in arithmetic depends upon successful learning of a series of skills in a given sequence. Arithmetic is therefore a hierarchy of skills. Writing may be analyzed into a series of skills and attitudes, the teaching of which largely depends upon the inter-correlation of skills and upon the maturity of the children. But an analysis of such a work reading skill as the ability to use the index reveals neither a hierarchy as in arithmetic, nor the inter-correlation of skills and

attitudes and the relations based upon maturity found in writing, but rather a series of reading experiences.

The accompanying material¹ presents the skills involved in the use of the index with suggestions for achieving each.

I. Knowledge of structures of indexes:

A. Need for index as matter of economy of time; compare with table of contents; use of one text:

Illustrative approach:

Question: What are the important industrial regions of the United States? Using the table of contents of *Essentials of Geography*, Book I; Brigham and McFarlane, what topics do you find which will direct you quickly to this information?

We have another help in the text which will direct us quickly to this information. Turning to the index in this text what do you note as the first help in aiding us to find this information quickly? (Alphabetical arrangement.) We shall call the important word or group of words the key or key word. Taking "Industrial regions of the United States" as your key, what do you find in the index on this topic?

B. Study of different types of indexes involves:

1. A text having no index; may have word study helps in pronunciation and meanings.
2. A text that has an index of main topics only.

Illustrative approach:

Essentials of Geography, Book I; Brigham and McFarlane, in the hands of one half of class; *Lincoln Reader*, Book V, in the hands of the other half.

Using indexes of these two books, on what pages will you find information about salmon? When you have found pages, please stand.

¹The author is indebted to Miss Bernice Newell, principal of the Logan School, Minneapolis, for this analysis.

3. A text that has an index consisting of both main and sub-topics.
Illustrative approach:

Essentials of Geography, Book I: Brigham and McFarlane, in the hands of one-half of the class; *Elementary Geography*, McMurry and Parkins, in the hands of the other half of the class.

Question: In how many different parts of the world are oranges grown?

Using the indexes of the two texts, which index gives you the information you wish?

4. Reference sets; index in separate volume:

Book of Knowledge; *World Book*; *Compton's Encyclopedia*.

II. Mechanical skills:

- A. Recognition of letters.
- B. Know alphabet; order in which letters occur.
- C. Relative position of letters in alphabet; *L* is before what letter? *M* is after what letter? *I* is between what two letters?
- D. Position of letters in alphabet; the half-way letter? Is *R* in the first half? *G* is in which half?
- E. Arrange words alphabetically according to first letter; first two letters; first three letters.
- F. Relative number of words for letters. Glancing through word list or index in text, for what letters are there a greater number of words?
- G. Economy in locating words in word lists and indexes by looking at top and bottom words in column and telling whether or not word is in that column.

III. Use of indexes:

- A. Locate information when key word is stated as main topic in index; use of one text.

On what pages of *Geography for Beginners*, Shepherd, will you find

information on the following kinds of fuel?

Gas, wood, electricity, oil, coal

- B. Locate information when key word is listed as a sub-topic in index; use of one text.

On what pages in *First Book of Birds*, Miller, will you find information on the following points relating to birds?

Nest of sparrow, beaks of woodpecker, color markings of flicker, flocking of goldfinch.

- C. Locate information when more than key word is involved, requiring search for more than one main topic and sub-topic; use of one text.

Using index of *Elementary Geography*, McMurry and Parkins, find pages which will answer the following questions:

What effect have winds and rainfall on farming?

Is the distribution of population of the United States affected to any great extent by rainfall?

Does the United States raise a sufficient corn crop to supply its own needs?

- D. Locate information in index when key word is not specifically stated; use of one text.

We wish to know what information *Essentials of Geography*, Book I, Brigham and McFarlane, will give us on different means of transportation. Using index, list all words alphabetically and pages on which information will be found. What is the first means of transportation you find? (Aeroplane)

- E. Locate information in index when key words are not specifically stated; use of not more than two texts.

Using the index of your *Essentials of Geography*, Book II, Brigham and McFarlane, determine what key words you will need to help you solve this problem.

What forces have been responsible for lack of progress in Asia?

Note: It is expected that the group, after referring to main topic *Asia*, would decide upon such sub-topics, as rivers, climate, people, etc., as key words to solve this problem.

- F. Using index to locate information for a major problem; use of all available sources, as:

Essentials of Geography: Brigham and McFarlane

Human Geography: Smith

Elementary Geography: McMurry and Parkins

Great Cities of the United States: Kraemer

United States: Allen

Nations as Neighbors: Packard and Sinott

First Book of American History: Beard and Bagley

Makers of America: Woodburn and Moran

Compton's Encyclopedia

World Book

What effect has the discovery of gold had upon the development of California?

Note: It is expected that the group, after referring to the main topic *gold*, in index, would determine such sub-topics as history of the discovery of gold, early living conditions, early means of transportation and communication, and extent of gold output at different periods of time.

- G. To complete index on one particular topic in text that it may be more helpful as a tool; extending main topic of index to include sub-topics. Using the index in *Essentials of Geography*, Book II, Brigham and McFarlane, find the following:

1. In how many different places do you find a discussion of gold?
2. What different facts about gold does your index say are given in your text?
3. You have found that gold is discussed in five different places in the book, but from a reading of the index we do not know what points are discussed. This presents a problem. Can you make the sub-topics for this main topic of *gold*, thus making the index a more useful tool?

Similar analyses of other skills in work reading show that they can be sub-divided into a fairly well graduated series of specific skills and abilities. This suggests the advisability of the preparation of a series of graded practice exercises in work reading much more carefully organized than any of the material now found in textbooks. Drill materials for the lower grades can develop the fundamental reading skills involved in the more general abilities. The classification of the objectives for each grade is also possible. The chief value of such an analysis is the resulting simplification of the learning process. Just as we have analyzed the specific learning activities in arithmetic we shall probably be required to analyze the learning activities in reading.

THE DEVELOPMENT OF INDEPENDENCE IN WORD RECOGNITION

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ANY discussion of methods of developing word-mastery should be prefaced by the statement that the primary purposes of instruction are to develop fluency, accuracy and fullness of comprehension in the various valuable types of reading and satisfaction in the exercise of such reading skills. Independence in word recognition is to be fostered only at the time, in the manner and to the degree that it serves as a means to the primary ends of promoting skill and interest in reading for meaning and appreciation. Since word-mastery skills are not to be taught for their own sake and since there always exists some danger of giving them unnecessary emphasis, several methods have been designed to avoid these errors.

The Incidental Method:

The first method provides no specific instruction or exercise for these mechanical skills but leaves them to incidental development. This method is based on the assumption that the practical demands of reading for the thought will call out and exercise all of the word-mastery skills that are necessary. Experimental studies of this method, which leaves the technical abilities to learning by trial and accidental success, show its deficiencies. Failures to develop valuable skills and to avoid the practice of undesirable devices are far too frequent.

The Extrinsic or Supplementary Method:

The second method consists in providing for the word-mastery skills special, but subordinate training. In practice this method consists in the use of a variety of supplementary exercises, that is, exercises which are used separately as an addition to normal reading. Rapid exposure exercises with flash cards to increase the range of the reading perceptual span and phonetic drills upon word elements

are the two devices most widely used at present.

Several objections may be made to exercises of the supplementary and extrinsic type. One deficiency in this method is that it requires too great a degree of transfer of skill from the supplementary training situation to the normal reading situation. Pupils often learn to deal with phonetic elements in word drill exercises but fail to carry over sufficiently the habits of utilizing them in ordinary reading. A second deficiency is the amount of time spent in sheer word analysis and synthesis drills which do not simultaneously exercise any form of comprehension. A third defect is that these separate drills do not exercise the most important habits of utilizing word-form clues and contextual clues at one and the same time.

The Intrinsic Method:

The third method, a newer development, is the result of an effort to apply the principles of analytic learning¹ to the problem of developing independence in word recognition. It attempts to provide specific practice for the skills which require it but it endeavors to make this experience not extrinsic and supplementary but an intrinsic phase of reading comprehension of the thought. In these experiences the pupil is not apparently concerned in achieving mastery of word-forms but in comprehending printed material in a normal way. It is a case of killing two birds with one stone. It endeavors, also, to integrate the use of word-form clues and contextual clues by making both necessary for the solution of the problems arranged.

Nature of Necessary Perceptual Skills:

It is necessary, before using this method, to ascertain what word recognition skills are necessary for developing rapid, accurate and

¹The principles referred to here are explained in the author's *Psychology for Students of Education*, Macmillan, chap. 13.

full comprehension in reading. Investigations have shown the marked value of three types of ability:

- (1) The ability to react vigorously to *new* words in such a way as to observe their most significant characteristics by means of which they may later be recognized without confusion with other words.
- (2) The ability to attack *unfamiliar* words, encountered during the activity of comprehending phrases, sentences or paragraphs, in such a way that recognition may be achieved with the minimum interference with understanding of the context.
- (3) The ability to perceive *familiar* words with great speed and accuracy in order to make possible rapid reading.

Analyses of the characteristic of English words and experimental studies of children's successes and difficulties which appear during the learning process have shown that these three types of ability may be harmoniously improved by certain types of skills of which the following are of most importance.

- (1) Ability to observe quickly and accurately the general configuration of words.
- (2) Ability to observe at the same time some of the characteristic visual elements in words.
- (3) Ability to utilize at the same time any available context clues to the meaning of the word.

The intrinsic method requires that training in such skills as these be made an integral part or phase of a reading-for-the-thought situation which is justified for its own sake.

Types of Comprehension Desired:

Recent studies have shown the value and necessity of exercises which are designed most effectively to develop ability to comprehend paragraphs in different ways and for different purposes. Thus the use of questions and exercises which suggest and check such types of comprehension as reading to note the general significance of a paragraph or series of paragraphs, to observe the emotional mood, to ob-

serve the logical outline, to carry out accurately given directions, to note the details relevant to a topic, to find the answer to a question, to predict what events should logically follow the given facts, etc. Such comprehension exercises, which are to be introduced for their own value quite apart from their influence upon word-mastery skills, are samples of the materials into which the word perception devices may be worked without disturbing, in any way, their primary function.

Introducing the Intrinsic Devices:

The use of these principles may be illustrated by the character of exercises arranged to test comprehension of a paragraph, story, description or any other composition. After the selection has been read by the pupil one or more of the following types of comprehension tests may be presented in printed or typed form.

The selection was mainly about—a cow, a saw, a cat, a rat.

These words may be arranged in other ways such as:

cat	was	farmer
rat	saw	father

The best title for the story is—

The Big Hat

The Bad Cat

The Sad Cat

Mark the true statements X.

The hat was colored brown.

The cat was colored black.

The cat played with a doll.

The cat played with a ball.

Put in the right word

The cat afraid of the farmer.

The farmer the cat had been bad.

war was saw raw

Characteristics of the Intrinsic Method:

The essential feature of the intrinsic method of developing the various word perception skills is that these abilities are developed as far as possible by means of the mechanical arrangement of the material used in reading and in comprehension exercises. The reading materials are presented in such a way that in order to secure and indicate full comprehension the pupil must exercise one or more of the

desired reactions. The materials are so arranged, furthermore, as to facilitate the perception of total configurations, and the various types of significant word parts such as frequently appearing syllables, phonograms of different lengths, etc., and the more unusual combinations of letters which are the distinctive features of words. The materials are arranged, in other words, to throw into relief and in a form which facilitates perception both the common and the distinctive characteristics of words. From continued practice on such materials, the pupil learns to identify certain common elements and acquires the habit of seeing both the familiar and distinctive features of a word. Meeting them in a normal reading situation, the visual word elements are naturally associated with their sounds. In these exercises, however, the pupil's main interest is not in studying barren word-forms but in the comprehension of some form of printed material. In all cases, then, encouragement is provided for utilizing context clues simultaneously with the observation of word-form characteristics. In the exercises suggested, the pupil in order to make a correct choice must have in mind the context of the material on which the questions are based and the meaning of the phrase or sentence he is then reading. Thus, he must use at the same time the word-form and the context clues.

Choice of Word Characteristics:

In selecting words for such comparisons it is important first that the different types of common and contrasting elements² be adequately represented and that the word should, in the earlier grades, at least, be chosen wholly from those previously read and presumably learned by the child. Words should not be introduced because they are similar or otherwise confusing. The pupil should merely be expected to distinguish a word from others

which he has, or should have, learned. Normal reading demands this degree of clearness of perception and no more is required until more similar words are encountered in a normal way. Thereafter they may be placed for contrast and discrimination in such exercises. In this way, the development of perceptual acuity is kept within proper limits.

Amount of Practice and Instruction:

The use of such materials with children in representative school classes has shown that they need not be employed extensively to secure satisfactory results. These experiments have shown, furthermore, that although occasionally to call attention to word similarities and differences, to demonstrate dividing a word into syllables, to indicate the association of a word's sounds and its visual character and to encourage rapid perception are helpful, very little deliberate instruction by the teacher is needed for any except rare cases. The pupil needs only a few hints occasionally to enable him to develop these skills through the exercises alone.

Results Obtained in Experiments:

Although these illustrations do not indicate all of the types of skills needed to insure a satisfactory degree of independence in word recognition, they suggest the method of approach. In several experimental studies, the value of such intrinsic devices has been shown. Compared to conventional phonetic procedures, the new method, which really requires little or no time separate from that devoted to normal comprehension, is more interesting to children as well as more productive of independence in word-recognition. In several tests the increase in word-mastery techniques and the saving of time have resulted in an increase of ability in comprehension of from 30 to 40 percent.

For fuller accounts of the general method and of teaching technique to be employed with it, readers must be referred to more comprehensive accounts.

²As determined by studies of the characteristics of children's vocabularies such as have been made by Atkins, Gates and others.

TEACHING BEGINNERS TO READ—AN INTEGRATED PROCESS

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TEACHING swimming without water is conceded to be an unfruitful procedure. That certain skills can be effectively taught in a situation alien to their use has been abandoned in most teaching practices. Gradually methods have shaped themselves to fit the needs of the learners, and skills are acquired in situations that have as many as possible of the identical elements of the situations in which they are to function.

It is easily apparent that this more sincere and genuine point of view is operating in arithmetic teaching, in the teaching of composition, of spelling—in fact in almost all of the work of the elementary school. It is surprising, however, to see still in the teaching of reading a queer hang-over from the point of view in method that taught swimming without water.

This paradox is observable in the practice in teaching beginners to read that employs supplementary drill to teach the so-called mechanics of reading and carefully separates the drill from the actual reading. That such a separation is necessary is undoubtedly fixed in the belief of many teachers. Their daily programs reflect it. Separate time allotment with separate periods is provided for drill in phonetic elements, words, and groups of words. Apparently many teachers consider the recognition of words and the comprehension of meaning as processes to be attacked separately; in many cases they are held to be so antagonistic that one can be secured only at the expense of the other.

Nor does this fully state the complexity of the situation. The difficulties of the teacher of beginning reading are further complicated by her obligation to build in the young child a love of reading as a means of enjoyment and pleasure. She is responsible to some extent at least for giving him standards of choice and recognition of artistry. She is expected to

lead him to use techniques that are economical and effective and, at the same time, to preserve his purposeful attitude in recognizing his own problems and to encourage the use of his initiative in solving them.

Does a consideration of the entire question of teaching beginners to read seem to parallel a situation in teaching swimming that would shift from swimming without water to water without swimming? Is the dilemma, by analogy, one in which a choice must be made between teaching the swimmer the necessary muscular movements out of the water and plunging him into the pool to discover for himself what he must do to swim? Is it not possible to find a middle ground which gives guidance in mastering the necessary skill in genuine experiences in which the skill is employed?

The impatience of teachers with the confusion of method for teaching beginners to read has crystallized into a curious animosity directed at a symbol. "Graduation Day for the Little Red Hen" reads an announcement of a recent system of primary reading. A research study reports a teacher as saying if she should ever meet the Little Red Hen she would strangle her. What is the condition that has made this humble representative of the literature of childhood the target of such ill-will? Is it not possible that it results from a common method of teaching of which the following account is not greatly exaggerated?

A group of six year old children have been in school for a few weeks. This morning they are having a reading lesson. The teacher has selected a nursery story which she tells to the class. The children dramatize it. The teacher shows them a large chart on which the story appears. She reads it aloud from the chart. She writes it on the blackboard. Finally, after abundant opportunity for memorization, books are given to the children from which they read

the story. Since some children are less expert than others in memorizing, the process has to be repeated. It is in such a situation that *The Little Red Hen* has been sacrificed. When *The Little Red Hen* has been mastered comes *The Old Woman and Her Pig* or perhaps *The Three Billy-Goats Gruff*. Each story probably carries an individual vocabulary burden and is in no sense a development of the other. At the same time, a more or less elaborate system of training in phonics may be begun, involving entirely new word elements not encountered in the reading and related to each other only by mysterious ties of kinship, known as "family" relationships.

Of course, thousands of children have been taught to read successfully by these methods, as, indeed, they have been by any method or, for that matter, without any method at all. A skillful teacher in some way manages to bring the thing about, but the question at issue is not the teacher's ability to succeed by a method, but is she utilizing the most economical means that a study of education has to offer her?

Distinct simplification of the problem of teaching beginners to read has grown out of the careful and thorough vocabulary studies that have been made. The number of words children need to know in order to read simple material has grown much smaller and the words themselves of greater interest and significance. Recent experimental studies have, also, pointed out means of utilizing the child's interest in story and action without the waste of trial and error methods. The process may be very briefly stated as something like this: the formulation of a short unit of material made up of a limited number of words, the combination containing a definite story value in simple form. A dozen words may suffice for this in the beginning. Before attempting to read this story, the child is given an opportunity to take part in activities in which he learns to read the words that he afterwards encounters in his story. He learns these words, however, not by drill or separately, but in context, and his success and pleasure in an interesting and desirable activity is dependent upon his learning them. Very soon he is given the little story to read—the story based upon

his acquired vocabulary, but of a content he has not previously seen. In acquiring this vocabulary he engages in worthwhile activities and in a very short time the vocabulary functions in reading a story of interest to him. These activities may grow in range and difficulty, and the stories and verse and information, which he is at the same time able to read, grow in difficulty and variety, also. The growth must be gradual, of course, and the whole process developed in the light of the laws of learning as they are understood at the present time.

The only materials needed in carrying out this integrated plan are: (1) a work book that provides in its mechanical arrangement clues for learning words and guides the child in interesting activities that help him to gain control of reading for meaning; (2) a reading book of material designed to satisfy children's genuine interests and employing the same vocabulary as the work-book. As the child completes units of the work-book he is able to take units in his reading book of corresponding vocabulary and read them uninterruptedly for pleasure and understanding, just as an adult reads.

Telling delightful stories to children and reading pleasant books to them will undoubtedly stimulate a desire for reading, but it is a habit of reading books for themselves that we want children to have. To that end their first reading materials need to resemble more closely books in the world at large. The dull and drab primer, its stories interspersed with lists of words to pronounce or exercises to perform, no matter how efficient these may be, cannot have the attraction a book of uninterrupted reading has.

The child's first reading lessons, even when the number of words that can be employed is very limited, may give him ideals and standards of action. These lessons may contain stories of wholesome family life and accounts of play and life at school. As the child becomes adjusted to the group life of the school, his interests widen to the larger group of the community. His reading lessons, constructed to carry forward his control of skills, may at

the same time broaden to include an appreciation of social institutions and civic principles. Simple stories of the policeman, the fireman, and others who serve the public are worthy of inclusion. Other elements that deserve places are: a realization of the contribution of various groups of workers to the well-being of others; knowledge of sources of products and means of transportation; information about industries and natural forces. Of course, these things must be clothed in the simplest of ideas and language for the six-year old but they are things he is much interested in. It is

possible, also, to extend his simple reading lessons to include contacts with other peoples and other races, as well as stories of animals involving action and plot.

Instead of dependence upon incidental learning or drill upon separated skills needed in reading, an integrated method provides guidance in a systematic developmental order of learning. An integrated process of teaching beginners to read makes use of the child's desires, needs, and self-directed energy, and at the same time gives him control of means provedly economical and effective.

HYGIENIC STANDARDS IN TYPE AND FORMAT OF READING MATERIALS

(Continued from page 103)

ness of .075 millimeters. (Cohn and Sack:
Upon basis of experimental evidence.)

Color of Pictures

The use of highly colored pictures and drawings is questionable. (Dearborn.)

Size of Book

Books should be of such a size that they can easily be held in the hand during the reading process.

RECENT BOOKS OF POETRY FOR CHILDREN

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NO GROUP of books written for children more quickly catches an adult's eye and ultimate appreciation than the one which contains the poetry. One could not say *any* adult, with perfect truth, but one can say without contradiction, an increasing number of adults look over and sometimes appropriate much that was written with no regard to or suspicion of their interest. Children quickly detect the self-conscious poetry which has been written with an adult audience in mind, and leave the books for their elders to appreciate and frequently the elders are rightfully entertained and delighted with these poems so pleasantly reminiscent of their childhood and childish things. Because of this reminiscence they are not as interesting to the children for whom the authors meant to write.

After all, it is a pleasure to begin this list of modern books of poetry with a book for both adults and children, one that any teacher of English would be glad to own and from which she could get many hours of delight and go on for years following the pleasant paths it suggests! *THE WINGED HORSE*, the story of poets and their poetry by Joseph Auslander and Frank Ernest Hill is not just "another of those outlines." It was written for "two particular children" as "a simple account of what poets had been and what they had done in the world," "and for all who were at the beginning of poetry whatever their years." It was a difficult task, even for two young American poets to attempt, and although it shows wide knowledge and study, there is not a dull page. Are there not many family circles where reading aloud from this book and making excursions into tempting fields could equip a new generation with deep and intelligent love of poetry built on an inborn love of beautiful sounds? For teachers of English the book seems one of the necessary tools—not of the spade and hoe variety, but the seed

planter, the waterer, and the gentle and stimulating cultivator. No English class, no matter how well taught, but could be brightened by selections from this book.

The long-lived *CHILD'S GARDEN OF VERSES* should begin any list of poetry for children; it is one that has a perennial modernity and has long been the pattern for a large following of those of less merit. Never has it been surpassed.

The wide approval of Mr. Milne's two delicious books has been followed by another crop, too closely imitative, but there are in many of them the qualities of originality and charm with a sincere appreciation and knowledge of children's ways and thoughts. Some of these were ready for print before Mr. Milne set his new goal.

Rachel Lyman Field has two little books, *POINTED PEOPLE* and *TAXIS AND TOADSTOOLS*, illustrating both of them herself, no one can quarrel about the suitability of picture to text. The rhymes in the first book go singing through city things, with witches and elves, here, there and nowhere with pure delight.

"I have seen the Pointed People
Gliding through brush and bracken
Blinking bright eyes at me
And shaking with silent laughter."

In *TAXIS AND TOADSTOOLS*—there are no trite lines even on such a well-worn theme as *The Wind*, although some of the poems seem too subjective and analytical for little children.

"Be very polite to the Wind, my Child
For the Wind's a fellow both wise and wild.
A tramp he travels from town to town
With his bag of tricks like a Circus Clown."

Not every child enjoys all of Elizabeth McKinstry's *PUCK IN PASTURE* but here, too, is a book for grown-ups with enough of wit and elfishness to pass on much of it for young imaginations to feed upon. Again the poet makes her own decorations with a resulting

page of beauty and perfect fitness to the themes.

What do you think of Nathalia Crane? was a frequent question some months ago. After her *JANITOR'S BOY*, she grew up a little. *THE SINGING CROW* and *LAVA LANE* are important because they not only show an unusual breadth of vocabulary but also because there are singing lines which show what youth can do with words when unafraid and unhampered.—They are not poems for children in spite of their exceedingly youthful author.

The collection *SILVERHORN* selected from Hilda Conkling's *POEMS BY A LITTLE GIRL* and *SHOES OF THE WIND* meets with the unqualified approval of a poetry-loving child and adults have only themselves to blame that there are not more of these children with gifts which should not seem rare but the natural expression of an inner beauty. On that text hangs a long story.

I know how poems come;
They have wings.
When you are not thinking of it
I suddenly say
"Mother, a poem!"
Somehow I hear it
Rustling.
Poems come like boats
With sails for wings;
Crossing the sky swiftly
They slip under tall bridges
Of cloud.

New editions of the moral lesson poems of Anne and Jane Taylor delight modern children who still enjoy *MEDDLESOME MATTY* and *LITTLE ANN*. The grandmothers who now re-read them to children may consider the covers too gaudy for the text when they think of what sober gowns they once appeared in.

Walter de La Mare has a fixed place in childish hearts. *PEACOCK PIE* and *THE CHILD'S DAY* retain their popularity. Many of the younger children find the poems Elizabeth Ann, Tired Tim, The Bookworm and The Cupboard as delightful as their former companions in *Mother Goose*.

Rose Fyleman's fairies between the pages of her little books make a kind of catalogue of fairy doings.—*FAIRIES AND CHIMNEYS* is the

favorite, but all the other little books contain enough of merry, jolly lyrics to be a storehouse of delight for little children. Here is a good example:

A Fairy went a-marketing—
She bought a little fish;
She put it in a crystal bowl
Upon a golden dish.
An hour she sat in wonderment
And watched its silver gleam,
And then she gently took it up
And slipped it in a stream.

* * *

A fairy went a-marketing—
She bought a coloured bird;
It sang the sweetest, shrillest song
That ever she had heard.
She sat beside its painted cage
And listened half the day,
And then she opened wide the door
And let it fly away.

* * *

A fairy went a-marketing—
She bought a winter gown
All stitched about with gossamer
And lined with thistle-down.
She wore it all the afternoon
With prancing and delight
Then gave it to a little frog
To keep him warm at night.

* * *

A fairy went a-marketing—
She bought a gentle mouse
To take her tiny messages,
To keep her tiny house.
All day she kept its busy feet
Pit-patting to and fro,
And then she kissed its silken ears,
Thanked it, and let it go.

Lest the boys old and young say there is nothing for them, we can step forward vigorously and with assurance that the selected poems from *COLLECTED VERSE* by Rudyard Kipling called *SONGS FOR YOUTH* has enough to spare of good print, pictures and content for any red-blooded boy to bite into with glee.

Mr. Ernest Shepard whose pictures are so much a part of Mr. Milne's books has also helped Mr. E. V. Lucas' *PLAYTIME AND COMPANY* by his unerringly expressive pictures.

From *Young and Old*, the first poem in the book, this choice bit may be of some comfort to the elders.

"Grown-up people play by ear
All the tunes you want to hear,
Know a lot of useful things
(Such as what to do for stings)
Now and then are really funny,
Nearly always have some money.
Though it's true "You mustn't do"
Is a phrase they're partial to,
Grown-up people, wrong or right,
Can't be disregarded quite."

But we deserve to be "disregarded quite" if we leave unread and unintroduced to the children we teach, meet, and know, some of these books of everlasting delights.

At least one of the recent compilations of the favorites of more than one generation of poetry lovers should be included in every one's library and even a brief list; for one can not hope to have at hand every desired poet's best for a sudden need. Clashes of ideas as to what is best are inevitable, but there can be no serious faults found with the following four fairly recent anthologies:

YESTERDAY AND TODAY, a collection of verse (mostly modern) designed for the average person of nineteen and possibly higher; arranged and selected by Louis Untermeyer.

THROUGH MAGIC CASEMENTS, by George L. Carhart and Paul A. McGhee, aimed for boys and girls of high school age, "a collection of poetry which they will like and which will lead them to read more poetry."

THE MAGIC RING, a collection of verse edited by Ruth A. Brown, of the Camp Fire

Girls Organization. "More than three thousand girls have had an opportunity to contribute their favorite poems to this collection. We believe that any girl may find in it poems that will enable her to 'walk with beauty.'"

"The average teacher is just beginning to discover the vast unmined tract of modern poetry for children" says Blanche Jennings Thompson in her compilation called *SILVER PENNIES* and she has gathered eighty-two poems with the hope that "no child will be kept out of the fairy land of modern poetry for the lack of a silver penny." If there had been no little explanation about each poem some of us would have liked it better. This inclusion which seems a defect to some has been praised by other folk!

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REMEDIAL WORK IN READING

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THE success of the learning process depends upon the observance of the laws of learning. These laws are commonly known as the *law of exercise* and the *law of effect*. According to the *law of exercise*, other things being equal, the more we practice or repeat the material to be learned, the better. It was formerly thought that such repetition was all that was needed in the learning process. Pupils wasted hours and hours droning through the alphabet and the tables in arithmetic. Two hundred years ago some children were spending as much as three years in learning the alphabet alone. Only in very recent years have we become keenly aware of the importance of the *law of effect*. This law asserts that the material to be learned is mastered more quickly and thoroughly if we are interested in it and if the process of learning it satisfies us instead of boring us. Thus, a boy may become a good silent reader through practice in reading interesting library books: but if he is compelled to read over and over to himself something in his reader with which he is already familiar, with no opportunities to read anything else, he is sure to become bored and disgusted with the silent reading in general. In the first case, both laws of learning are being observed, while in the second the *law of effect* is being neglected.

In the last few years in quite a number of cases children have improved so rapidly in some of their school subjects that those who are not familiar with the situation will scarcely believe that so much improvement is possible in such a short time. The reason for this rapid improvement lies in the fact that we are learning what to practice, when to practice it, and we are discovering more and more how to make even the most formal work interesting to the child. Ability in silent reading has suffered greatly from neglect in regard to both of the laws of learning. It too often has

neither been practiced consistently nor made interesting to the child.

In a recent survey in Wisconsin involving over 2000 high school children, it has been found that nearly one-third of these pupils are not able to excel the reading ability of sixth grade students and many of them fall far below these standards. Now if a pupil enters high school with only sixth grade reading ability one of two things is sure to happen,—either he will grow discouraged and drop out, or he will pass through the school at the expense of much more effort and time devoted to study than should be required. Each of these conditions is very unsatisfactory. In either case, we have the community paying high salaries to high school teachers to teach classes in which from 27 to 37 percent are either totally unable to comprehend the lessons assigned or do so with great difficulty. Such a practice undoubtedly discourages the pupil, overburdens the teacher, and violates every principle of economy.

All of the evidence available points to the fact also that the children in the upper grades of the elementary school are no better off in regard to silent reading ability than are the students of the high school. Surely, therefore, it is time that we should bend every effort toward bettering this condition. New methods and devices make it possible to bring about such improvement in a remarkably short time. A number of devices and exercises are presented in the pages which follow.

THE students who are deficient in silent reading ability fall naturally into four classes.

The most common type is represented by the student who reads *carelessly* and too *rapidly*. In order to correct this defect the following exercise will be found very helpful.

A paragraph provided by the teacher may be presented to the pupils who have been in-

structed to answer accompanying questions as quickly as possible. Under ideal conditions each pupil would have a copy of the paragraph and the questions on his desk. If this is not possible a paragraph may be written on the blackboard, together with the questions, provided, of course, that this blackboard is in plain view of all the pupils.

EGRETS

See paragraph beginning "Among the birds . . ." page 411, of *Scouting for Girls*.

Questions

1. Why do we enjoy the egrets?
2. In what respect have human beings been thoughtless?
3. Where do the aigrettes grow?
4. When do the birds wear their plumes?
5. When is it profitable to hunt egrets?
6. Why can they not be hunted at other times?
7. Why do the egrets return to their nests?
8. What happens to the baby egrets after their parents have been killed?
9. What has the United States done to protect egrets?
10. Why are they still being killed?

In presenting the paragraph to the class use the following directions:

"I have on these sheets of paper an exercise which helps to show how well one can read. I am going to pass the sheets out and I am going to ask you to place them face downward upon your desk until the signal is given to begin. This is necessary in order that all may begin at exactly the same time. Upon the other side of this paper is a paragraph with some questions, the answers to which are to be found in the paragraph. When the signal is given to begin, please turn your paper over and answer as many questions as you can until time is called. The number of questions which you answer correctly will constitute your score on this exercise."

After making sure that each pupil is supplied with pencil or pen and ink and with paper upon which to write the answers give the signal to begin. The amount of time which may be allowed may be varied according to the circumstances. Some will prefer

to call time at the end of the first or second minute while others will ask the first pupil who finished to indicate that fact, after which time is called immediately. Then the papers may be collected at once, or, if preferable, the pupils may exchange papers. Then the teacher may read the correct answers while the pupils do the scoring. This method has been found to work quite satisfactorily and it saves the teacher much work.

Variations of the above procedure will be evident to an intelligent teacher. In general it will be more convenient to use a paragraph in some book, a copy of which is available for each student. Books containing informational material are more convenient since more questions can be gotten from the paragraphs. If it is necessary to write the paragraph and the questions on the blackboard a curtain must be provided in order to conceal what has been written until all are ready to begin reading, at which time the curtain is drawn aside. In the majority of cases the most satisfactory method will be to use paragraphs from books which are in the hands of the students. The essential things which must be observed under all conditions are that all should begin at the same time, stop at the same time, and that there should be absolutely no interruptions during the test. If a pupil comes in late he should be instructed to sit quietly until the test is finished.

The preceding exercise will in general prove interesting to all of the pupils but, of course, the performance of a single exercise will not relieve careless reading. Similar paragraphs should be used each day if possible. Each pupil should be provided with a progress sheet upon which he should be instructed to record his scores. In ninety percent of the cases these scores will increase from day to day. Of course, there will be occasional slumps due to headaches, emotional disturbances, and the like, but the general trend of the scores will be upward. The consciousness of this upward trend on the part of the pupil is a new motive, and one of the most powerful which has ever been discovered. A particularly valuable result which comes from the use of this motive is the fact that it works well even when

there is only one pupil in the class, the interest being supplied from the fact that the pupil is beating his past record. Even in larger classes the tendency of the child is to endeavor to excel his previous record rather than to surpass his neighbor.

THE type of exercise as presented above is open to one objection. Some of the pupils will take too long in writing the answers to the questions, either because they write slowly or because they answer more fully than is necessary. In order to obviate this difficulty the teacher must ask questions which may be answered by the single word or at most by a phrase. Another method of meeting the difficulty is to ask questions which require answers of 'No,' 'Yes,' or 'Didn't say.' A sample exercise of this type follows. It is suitable for use in the high school.

GREAT BRITAIN

See paragraph beginning "During the nineteenth century Great Britain . . ." page 21 of *School History of the Great War*.

Questions

1. Did Great Britain experience any sudden revolutions during the 19th Century?
Yes No Didn't say
2. Was most of Europe at war during this century?
Yes No Didn't say
3. Were reforms adopted slowly in Ireland at this time?
Yes No Didn't say
4. Was the United States at war during this period?
Yes No Didn't say
5. Were far-reaching social reforms adopted?
Yes No Didn't say
6. Was the new age of coal and iron entirely advantageous to Great Britain?
Yes No Didn't say
7. Was Great Britain now able to pay all of her national debt?
Yes No Didn't say
8. Did Great Britain raise sufficient food for her people after this period?
Yes No Didn't say

9. Does existence depend upon her factories?
Yes No Didn't say

10. Does it say that an enemy might starve Great Britain into submission?
Yes No Didn't say

The directions for this paragraph are very similar to those given with the preceding one with one addition. Explain to the pupils that the answer to each question is either 'Yes,' 'No,' or 'Didn't say,' and ask them to draw a line through the answer which seems to them to be the correct one. The score is kept in exactly the same manner as in the preceding instance. It is intended that the pupil shall in both these cases answer the questions with the books open. They should be made to understand that they are permitted to read the selection over again if necessary in order to decide on the correct answer.

In the elementary school it is often desirable and quite beneficial to use a variation of these exercises for seat work. The plan is as follows: Find some old book, informational in type, which is falling to pieces. Frequently a page can be found upon which there is a suitable paragraph. Put this page upon cardboard and write your questions on the back. When a sufficient number of different paragraphs have been prepared to supply each of the members of the class all that the teacher has to do is to pass out the paragraphs giving one to each child and instructing them to answer the questions, writing their answers on another piece of paper. If it is desirable the children may be instructed to trade paragraphs as soon as they have completed those which they have. In this case there is no time limit, and, therefore, no concern as to whether all start at once or finish together. This device has proved particularly helpful in crowded rural schools where it has been used, and the improvement which has resulted from this single device has been very remarkable in many cases.

A TYPE of difficulty which results in deficiency in silent reading ability is that of slow reading. There are several causes for this trouble. In the first place quite a number of

children in the lower grades of the elementary school and even a few as high up as the fifth and sixth grades are unable to read and comprehend as rapidly as they should because they are weak in phonics. This sort of trouble can easily be detected by having a child read orally. His oral reading may show that he is lacking in power to attack new words. The remedial treatment in this case is, of course, a review of phonics carried out consistently according to the most accepted methods of the primary grades.

Another difficulty is the habit of lip reading. A person who has a well developed habit of lip reading is forced to say every word over to himself as he reads. For this reason his rate of silent reading can scarcely ever exceed the oral reading rate, whereas the former should be almost double that of the latter. The lip reader is also very apt to fall into the habit of poor phrasing. In order to arrive at the meaning of a sentence it is necessary that the words be grouped together in the proper manner. The pauses must come at certain definite places if the meaning of the sentence is to be comprehended. A child who puts his pauses at the wrong place is sure to lose the thought. As a consequence he is compelled to back up and start over again. Thus time is lost and the habit of slow reading develops. The trouble is easily detected by having the child read orally. If he is suffering from this defect he will read a short distance, stop in the middle of a phrase, and then repeat.

Poor phrasing is also the result of a short eye span. Recent discoveries in the psychology of reading have proved that the eyes do not move regularly along the line. On the contrary they make short jumps as it were with slight pauses between. Now if this jump of the eye is not of sufficient length to include a whole phrase, the child is again forced to pause in the middle, and repeat.

The treatment in both cases consists in providing the type of drill in recognizing phrases as they are ordinarily found in reading. Mr. C. J. Anderson, formerly superintendent of schools at Stoughton, found the following device very helpful. Flash cards were provided on which were written the common phrases.

For instance, on one card we would have 'in the song'; on another 'for the song'; on another 'in the morning'; on another 'on the table'; on another 'under the table'; and the like. He made quite a series of these flash cards—one hundred or so. They were flashed one at a time before the individual child, at first quite slowly with say a fifteen-second exposure, then gradually faster. The number of phrases which the child recognized each day constituted his score, and a record of the scores was kept from day to day to show improvement. The flash cards were arranged in such an order as to put the easier phrases first so as to encourage the child as much as possible. In rural schools and in schools where the teacher is already overworked, the child who needs drill in phrasing may be taken care of by another pupil. A bright child will easily learn how and in what order to display the phrases on the cards. Remedial work in phrasing can be carried on in this manner even in the most crowded schools.

A slight variation of this procedure is to make a list of phrases from some story or paragraph. It is not necessary that the phrases be taken in the order in which they occur in the story. In many cases it would be better to arrange the phrases in order of their difficulty. For instance, if a phrase is apt to cause trouble on account of its length, it might be better to place it nearer the end of the series.

Another exercise which children like is to mark with their pencils on some old printed material or out-of-date newspaper vertical marks separating the several phrases. When exercises of this sort are given faithfully from day to day great improvement in rate of reading usually results both among the lip readers and among those who are suffering from a too short eye span.

By far the larger number of pupils, however, read slowly simply because they have never felt an incentive to read more rapidly. In other words they merely need practice in rapid reading. For such pupils exercises of the following type will be beneficial.

Pass out to each member of the class a

book of which there are a sufficient number of copies to supply each student. Have them all turn to a certain page and then place the books face downward on the desk. Explain that the purpose of the exercise is to see how many words or lines each of the pupils can read in one minute. Make it understood also that you are going to ask some questions upon what is read in order to ascertain how much each one can remember. When all of the pupils are ready give the signal for the books to be turned over and the reading commenced. Call time exactly at the end of the first minute and ask each pupil to mark the spot at which he was reading when time was called. Then have the class immediately turn their books face downward again and ask your questions on the content of what was read, requiring the pupils to write their answers on a sheet of paper. These papers can then be taken up and later scored on the basis of the number of correct answers. Then have the pupils turn their books face upward again and count the number of words or lines which each one has read.

The results never fail to cause surprise to those who experience them for the first time. The variations in the amount read is usually very large. It is not unusual to find that the most rapid reader has read three times as far as the slowest one. Furthermore, contrary to the old idea about the matter, it will almost invariably be found that the rapid reader has gotten proportionally more of the content of what he has read than has the slow reader.

It does not follow by any means that the slowest reader will fail in his subjects. Some of them may even be leaders so far as making grades is concerned. It is quite evident, how-

ever, that those who succeed must pay dearly for their success. Long after the rapid reader is through studying his lessons the slow reader is compelled to stick by his desk in order that the lessons for the next day may be well learned. As stated in the survey of silent reading ability among high school students in Wisconsin, it was found that approximately one-third of the students failed to exceed the standard set for the sixth grade. In spite of this fact, however, two-thirds of those who fell below the sixth grade level were reported as doing satisfactory work. They evidently belong to the group of slow readers which we have just been discussing.

Formerly it was thought that there was a great virtue in plodding and that the plodder instead of being aided should be encouraged to continue his plodding. The newer view point, is that the plodder should be relieved, if possible, of those defects which make his work slow. There seems to be no valid reason why he should not get his lessons and have time to enjoy the social and other forms of extramural activities as well as his faster brother.

A further reason why the slow reader needs help is perhaps a more fundamental one. In this country of ours the power rests in the hands of the people and the very life of our government depends upon intelligent voting. The intelligent voter, almost of necessity must be an intelligent reader, but such intelligent reading is very unlikely to occur when the reader has to limp along at the slow rate of reading which is found among many of our high school pupils.

(To be Concluded in the May Number)

EDITORIAL

The Opprobrious Text Book

THE ARTICLE on *Hygienic Standards in Type and Format of Reading Materials*, page 101, is timely indeed. It is particularly appropriate for consideration in connection with silent and oral reading.

Progress in the determination of criteria on typographical standards in books for children has been slow enough, but the application of standards to the manufacture of books has lagged even more seriously. It is a distressing fact, too, that publishers have not, in general, reached as high a standard in the making of text books as they have in the manufacture of trade books and books for libraries. Text books, the constant companions of children, should, according to all principles of psychology, be made as pleasing and attractive as facilities for printing and book making will allow. Yet text books too frequently are not only unpleasant to look at, but positively injurious to the eyes.

This is particularly true of books in composition. Many language books give the appearance of over-packed suitcases, filled to bursting with odds and ends. The effect upon the critic who makes a cursory examination is sufficiently unpleasant, but to the child who drudges daily through the unleaded lines, and over-crowded pages, the result is apt to be permanently disastrous. Even if his eyes escape actual permanent injury, it is scarcely conceivable that the painful visual experience will not lead to a repugnance for composition.

Several causes may be pointed to in explanation of the unattractive text books, and not all of these lie at the door of the printer. There is far too much hasty authorship, and far too much superficial editing. The material that goes to the composing room has not been pruned to the practical limits of a child's text book. It can be forced through the press only by compression into type of a style which the hygiene of reading must

condemn. The publisher hands the final product to the author with the evasive comment that an overcrowded manuscript made it impossible for him to make a book creditable to either his skill or equipment.

Another cause for the printing of so many unsatisfactory text books may be the unwillingness of the users of the books to pay a reasonable price. If it is true that publishers are contending with a grudging patron in the text book buyer, something should be done in the way of educating the purchaser up to a higher appreciation of values. If the publisher is forced to meet a cheap demand with an inferior product, certainly school teachers and administrators have no small responsibility in the matter. We cannot accept the principle entirely, but to a certain extent commerce must be expected to follow the lead of its market.

Of course, it must not be assumed that the situation is entirely discouraging. More than ever before there are excellent text books in English coming from the press. There is no lack of pace setters for the publisher who wishes to enter the race of improved school books. But the books of superior typography and make-up only go to prove that anything less satisfactory should not be accepted in the schools.

The artistic and soundly hygienic trade books and books for libraries have already been mentioned. These books of the more superior grade have lavished upon them great care in illustration and printing, and are sought after by purchasers who are ready to pay for the values received.

That will be a happy day in the school when the publisher and the school administrator unite to give the children books they can read with real satisfaction and enjoyment, even though these books are designated under the somewhat opprobrious classification of text books.

REVIEWS AND ABSTRACTS

THE GREAT AMERICAN BAND WAGON. By Charles Merz. Garden City, N. Y., Country Life Press. 1928.

Charles Merz has invented a new mirror for Americans. Unique in character, it is amazing thousands of readers in this country.

The American, looking into this mirror, may see himself either speeding along the highway, or playing Indian in his secret society, or tuning in on his radio, or playing golf, or "seeing the sights" in Europe. Or, he may witness the superb drama of beauty contests, murder trials, newspaper headlines, great heroes, and skyscrapers.

This mirror does not distort. In it one does not appear too badly, yet it is a mirror not conducive to unbridled conceit. The picture is shown; the interpretation rests with the individual.

So perfect is the image that it is humorous. One might sit spellbound, hour after hour, indefatigable because amused and interested, as Mr. Merz shows picture after picture.

The writer talks to his readers in simple, direct language, typically Yankee in spirit. Yet from these simple words imagination is kindled in a delightfully poetic way.

Here is a factual work made truly creative.

—Helen Downie

THE STORY OF PHILOSOPHY. By Will Durant. N. Y., Simon and Schuster, 1926.

In this treatise the author sets forth in very readable form the principal ideas that make up the leading systems of philosophy. Here is a studied effort to bring to all a clarified statement of principles upon which philosophical systems have been based. Mr. Durant's presentation, however, is distasteful to the devotee of intricate deductions, who regards as an unforgivable sacrilege any attempt to present to the laity, in every day vernacular and in uninvolved logic, the so-called hidden findings of the philosophical mind. Fear of spoliation of sacred philosophical citadels prompts the professional to remove his so-called treasures from danger of misconstruction by the masses.

But for the layman, much of the stigma that has attached itself to the realm of professional philosophy is removed by this book. The hitherto sacrosanct is herein humanized. The supposedly unknowable is brought within easier reach of all.

Partly for these reasons, many philosophical devotees are now accusing Will Durant of crimes innumerable—even dubbing him the latest sleight of hand performer on the philosophical stage. The truly alert and interested reader of the book will find, in my humble opinion, that the long believed secret and magic accomplishments of the philosopher's thought are easily within the ken of the average reader; that it is not a sleight of hand performance to bring the so-called transcendental down to earth. Rather, Will Durant has revealed many instances in which the philosopher has based his success on the cleverness with which he was able to hide simple deductions by gathering them in magical raiment, the grave clothes of abstruse so-called metaphysics.

Whatever slight loss in accuracy may have resulted from this process, is fully compensated in the degree of practical utility of the compilation. Many who have never had time, inclination, nor ability, perhaps, to share with the immortals those conclusions which have a near approach to truth, may now sit by the fireside of enlightenment noting how universal and important or provincial and unimportant those conclusions may be for him.

As to the stigma of egotism which attaches itself to the author in the opinion of both his admirers and his opponents, I am not deeply concerned therein. To define egotism is altogether presumptuous in the first place. The super-egotists may pass under the mask of feigned humility, while the crusader for reform, actuated first by the desire to free a benighted humanity, may be accused of motives which are wholly foreign to his purpose. The public should be more willing to judge by results attained than by the means used, be they within the limits of proper ethics and accepted moral standards.

I believe Will Durant will survive the storm of opposition. A grateful public will watch for future publications with which he may be identified.

—R. L. Reeves

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